PROJECT NUMBER: 1101
PROJECT TITLE: Entomological Research
PROJECT LEADER: D. L. Faustini
WRITTEN BY: L. Ryan
PERIOD COVERED: June, 1988

I. PHYSIOLOGICAL STUDIES OF THE CIGARETTE BEETLE (CB)

A. DISINFESTATION OF EXPORT CUT FILLER

1. **Objective**: To obtain ARS/APHIS approval for a phytosanitary certification treatment for export cut filler.

2. **Results**: 100% mortality of ~100,000 CBs was achieved using either Isolcell® conditions at 35°C for 7 days (1) or an Ageless® Z 2000 at 28°C for 6 days (2). Cigarette subjective evaluations showed that for these treatments and vapor phase hydrogen peroxide all cigarettes were found to be acceptable when smoked against controls (3-5).

3. **Plans**: Report results to management and ARS/APHIS (6).

B. GLOBAL ECOLOGY

1. **Objective**: To determine the distribution and ecology of the cigarette beetle as it relates to the processing of tobacco into cigarettes.

2. **Results**: Program initiated for Oriental tobaccos (7,8) and the Kentucky Growers' Association (9).

3. **Plans**: Continue monitoring this season and present a report.

C. WAREHOUSE FUMIGATIONS

1. **Objective**: To investigate the use of Controlled Atmospheres (CA) to disinfest bulk redried tobacco.

2. **Results**: Reported second trials (10) which included an evaluation of cigarette subjectives (11).

3. **Plans**: Undertake extensive final trials during July, 1988 shutdown.

D. SERVICE TO OTHERS

1. **Objective**: To conduct and provide technical services to areas outside R&D.

2. **Results**: An analysis of customer complaints referred to as condensation holes was prepared (12).

   A cigarette beetle control training film, primarily for PM Europe, was begun (13).

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Advice and updates were given on space sprays (14), impregnated films (15) and CB traps (16).

E. VISITS AND OUTSIDE PARTICIPATION

A visit was made by D. L. Faustini to FTR, Neuchâtel, PM Lausanne and the Italian Tobacco Monopoly, May 22 - June 1, 1988 (17,18).

L. Ryan participated in the National Pesticide Symposium, June 8-10, 1988, Richmond, Virginia (19).

F. REFERENCES

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16. Faustini, D. L. Memo to T. Newman. Standard Cigarette Beetle Monitoring Program. May 12, 1988.

17. Faustini, D. L. Memo to Alessandro Trento. Visit to Italian Tobacco Monopoly Mannifattura. May 10, 1988.

18. Freymond, J.-M. Memo to Distribution. Infestation Control Presentation. March 23, 1988.

19. Ryan, L. Memo to D. Faustini. National Pesticide Symposium, June, 1988. April 21, 1988.

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